DOCUMENT RESUME

ED 153 051 08 CE 015 757

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TITLE Identification and Analysis of Competency-Based Adult Vocational Education Programs. Final Report. Research and Development Series No. 132.
INSTITUTION Ohio State Univ., Columbus. National Center for Research in Vocational Education.
SPONS AGENCY Bureau of Occupational and Adult Education (DHEW/OE), Washington, D.C.
BUREAU NO 498AH60237
PUB DATE Jan 78
GRANT G007605788
NOTE 54p.; For related documents see CE 015 755-758
AVAILABLE FROM National Center for Research in Vocational Education Publications, Ohio State University, 1960 Kenny Road, Columbus, Ohio 43210 ($3.25)

EDRS PRICE MF-$0.83 HC-$3.50 Plus Postage.
DESCRIPTORS *Adult Education Programs; *Adult Vocational Education; Business; Directories; *Educational Practice; *Information Dissemination; National Surveys; *Performance Based Education; Private Agencies; Private Schools; Proprietary Schools; Public Schools; Workshops

ABSTRACT

This final report from a project to identify and analyze competency-based vocational education programs in the U.S. presents an overview of the whole project and includes the literature review and a summary of findings. The literature is reviewed under six headings: the nature of competency-based education (CBE); application of CBE to adult vocational programs; developing and implementing CBE; the use of CBE in business, industry, and labor training; problems involved with CBE; and favorable aspects of CBE. This document summarizes project activities reported separately, including the national survey of competency-based adult vocational instruction in the public and private sectors (complete report, CE 015 756), development of the "National Directory of Selected Competency-Based Adult Vocational Education Programs" (CE 015 755), planning and operation of the project's national dissemination workshop (proceedings, CE 015 758), and supporting activities. Following a brief summary of findings, the major conclusions are stated: (1) The quality and extent of competency-based adult vocational instruction appears to be greater in the public than in the private sector; (2) instances of high quality instruction are infrequent in either sector; (3) persons operating such programs are working, for the most part, in isolation from other adult educators; (4) programs are developed primarily from the initiative of a single instructor; and (5) too many programs purported to be competency-based fail to provide adequately for pre-assessment, progression when objectives are achieved, learning alternatives, and open entry/open exit format. (JT)

ED153051

Research and Development Series No. 132

IDENTIFICATION AND ANALYSIS OF COMPETENCY-BASED ADULT VOCATIONAL EDUCATION PROGRAMS

Final Report

by

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January 1978

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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OE 05 757

Identification and Analysis of Competency-Based
Adult Vocational Education Programs Project

Final Report

Grant No. G007605788

Project No. 498AH60237

This publication was prepared pursuant to a grant (No. 007-605-788) with the Bureau of Occupational and Adult Education, U.S. Office of Education, U.S. Department of Health, Education and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Office of Education

Bureau of Occupational and Adult Education

ABSTRACT

This final report is one of four publications from the project, "Identification and Analysis of Competency-Based Adult Vocational Education Programs." Background information on the project is provided, as well as a detailed review of literature. Project activities and accomplishments are reported, including the national survey of competency-based adult vocational instruction in the public and private sectors, development of the *National Directory of Selected Competency-Based Adult Vocational Education Programs*, planning and operation of the project's national dissemination workshop, and supporting activities. Major findings, general conclusions, and recommendations for action are reported. Appended materials include a glossary of terms, the data collection instrument, a course description format used in the *National Directory*, and a copy of the workshop program. Companion publications from the project include the *Directory*, *Workshop Proceedings*, and a detailed research report of the national survey.

PREFACE

Competency-based education (CBE), based on a job analysis, and consisting of elements such as performance objectives, individualized instruction, and criterion-referenced testing, is considered a promising approach to improving vocational instruction. Adult vocational education appears to be particularly suited to CBE. Adult learners can progress at their own rate to mastery level, acquiring the necessary competencies to meet individual needs and job requirements.

Recognizing the importance of CBE to adult vocational education, the U.S. Office of Education, Bureau of Occupational and Adult Education, sponsored this project, "Identification and Analysis of Competency-Based Adult Vocational Education Programs." The major purpose of the project was to provide a vehicle for sharing and exchanging information about competency-based adult vocational education programs and to determine the status of CBE in adult vocational education.

Appreciation is due to those individuals conducting competency-based adult vocational education programs in 40 states and the Virgin Islands who participated in this study. Special thanks are due those who contributed so generously of their time and knowledge during indepth on-site interviews, and to the instructors in Minnesota and Ohio who assisted the project staff with the pilot test of the survey instrument.

Acknowledgments are also in order for the many individuals and groups representing state divisions of vocational education, local school systems, business and industry training departments, labor organizations, the American Society for Training and Development (ASTD), public postsecondary and proprietary school administrators, and personnel of The Center for Vocational Education who nominated contact persons involved with specific competency-based adult vocational education programs. William Ruth, Adult Vocational Supervisor, Division of Vocational Education, Ohio Department of Education, was especially helpful in nominating contact persons for the pilot test and the national survey. The presenters and the participants in the National Workshop on Competency-Based Adult Vocational Instruction are acknowledged for their interest in and support of the project.

Special acknowledgments are given to the National Panel of Consultants:

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These individuals provided valuable contributions in the development of the survey instrument and other major project activities. Billy J. Koscheski, Research Specialist, V-TECS, and B. R. West, V-TECS Coordinator, Indiana State Division of Vocational Education, are also recognized for their assistance in developing the survey instrument. Appreciation is expressed to Dr. Sandoval and Dr. Wright for their critical reviews of this report prior to final revision and typing.

The profession is indebted to the project staff for their effort in performing the various project activities and compiling and writing the four project publications: Earl B. Russell, Project Director; Cynthia K. Anderson, Program Assistant; John Boulmetis, Graduate Research Associate; and Janet Rice, Research Specialist. Recognition is also given to the following staff members of The Center for Vocational Education for their assistance with the project: Bruce A. Reinhart, Associate Director, and Research Specialists Roy L. Butler, Glen E. Fardig, and Robert E. Norton.

We are confident that the efforts of many people combined in this project represent a significant contribution to the state of knowledge of both competency-based education and adult vocational education.

This Final Report contains information about project activities and accomplishments, including major project findings, conclusions, and recommendations. The Final Report covers all aspects of the project. Three other publications address specific project activities and outcomes in greater detail:

The National Directory of Selected Competency-Based Adult Vocational Education Programs

The *National Directory* provides course developers and instructors with a reference for sharing and exchanging information about competency-based adult vocational courses and programs. Fifty-seven courses and three programs are described in terms of identification of tasks in the job analysis, development of performance objectives, delivery of instruction, student testing, course evaluation, and support systems. Names of contact persons with their addresses and telephone numbers are included to facilitate communication and planning of site visits.

Although the *National Directory* is not intended to be comprehensive but illustrative of exemplary courses, it does give an indication regarding the status of CBE in adult vocational instruction in the United States.

Proceedings of the National Workshop on Competency-Based Adult Vocational Instruction, August 2-5, 1977

The *Workshop Proceedings* include presentations made at the National Workshop held at The Center for Vocational Education. Seventy-two participants representing public and private adult vocational education attended. Instructors or administrators representing six exemplary competency-based adult vocational programs identified in the national survey gave presentations describing their programs, including implementation, course management, record keeping and other concerns educators have with CBE. Other presentations included U.S. Office of Education activities related to competency-based adult vocational education, The Center for Vocational Education's involvement in CBE and adult vocational education, an overview of this project's national survey, and adult vocational resources available from The Center for Vocational Education.

Competency-Based Adult Vocational Education Programs: A National Survey

This research report contains detailed information about the national survey which was conducted to identify competency-based adult vocational programs. Background of the study, methodology, findings, conclusions, implications and recommendations are the topics covered. Ten site visit reports describing the organization, curriculum, staff training, and strengths and weaknesses of exemplary competency-based adult vocational programs identified in the survey are included.

Robert E. Taylor
Executive Director
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CHAPTER I

THE PROBLEM AND ITS SETTING

The growing national commitment to adult education is directly related to national trends affecting the diverse adult population. The decline in the rate of births in the United States, the increase in life expectancy, the extension of the mandatory retirement age from 65 to 70 years, the expanding technology which requires job preparation programs to update employees' competencies, life-long learning needs of individuals, and increasing emphasis on career planning and career changes are among the trends. Modern instructional technologies are needed to bring current concepts of adult education to fruition. The National Advisory Council on Adult Education (1977) stated that a system of education that is universal and that continues throughout every individual's lifetime is now a national priority. As the educational needs of society change with these trends educators must develop mechanisms which will allow them to change their programs to meet these needs.

Competency-based education (CBE) has been viewed by various educators as a promising means of improving all levels of education. Because competency-based adult vocational education is based upon occupationally valid tasks, it has great potential for increasing the relevance of instructional programs. Learners can acquire knowledges and skills required in an occupation with maximum efficiency of time and effort. In a competency-based program, individual differences become an asset to the student rather than a liability. Instruction is designed to assist the student to develop competencies in identified areas of skill deficiency. This makes it possible for people to enter and exit the educational system throughout their lifetimes (Pucel and Knaak, 1975).

The Problem

Although adult vocational education seems well suited to the competency-based approach, little has been documented about the current status of such programs in the United States. A number of books and journal articles have been written about competency-based teacher education and competency-based education in general. But competency-based adult vocational education has not been addressed well in the literature.

The U.S. Office of Education has recognized the importance of CBE to adult vocational education and has funded several projects in this area, including the project reported on here, "Identification and Analysis of Competency-Based Adult Vocational Education Programs." Several of the USOE projects funded in fiscal year 1976 which involve CBE in adult vocational education are:

- Performance-Based Adult Vocational Education Programs—Alabama
- Developing Competency-Based Individualized Instruction Modules for Owner/Managers of Small Business Firms—Virginia
- Expanding Competency-Based Adult Vocational Education in Nevada—Nevada

- Development and Validation of a Competency-Based Instructional System for Adult Post-Secondary Special Needs in Entrepreneurship via the IDECC Instructional System—Ohio

- Development of a Competency-Based Curriculum for Upgrading Water Treatment Technicians—West Virginia

- Competency-Based Curriculum Development for the Mining and Related Industries—Pennsylvania

A more comprehensive listing of related USOE Projects was presented at the National Workshop on Competency-Based Adult Vocational Instruction (Anderson, 1977).

Developing a competency-based educational program requires a considerable amount of time and expense. The adult instructor and/or administrator interested in using the competency-based approach to learning faces the formidable task of conducting or otherwise obtaining a valid job/task analysis, developing performance objectives, learning activities, and criterion-referenced tests, in addition to coping with implementation and course management.

Some venicle for sharing and exchanging information about similar occupational areas was needed to avoid duplication of effort and increase efficiency in implementing CBE in adult vocational education. Because many competency-based instructional features are generalizable across subject areas, it would be helpful for practitioners to share general information in areas such as competency-based course development and course management.

Relatively little was known to the profession about the status of ongoing competency-based adult vocational programs. This is the problem addressed by this project. Large business and industrial firms were thought to be using competency-based training methods. Through the Vocational-Technical Education Consortium of States (V-TECS) catalogs,[1] some adult vocational educators in the public schools were identified as implementing competency-based instruction. Documentation of these and other efforts and information about the status of CBE in adult vocational education was needed before efforts to share and exchange information about successful programs could begin in a substantial way.

The Rationale

CBE offers the student some important educational features. In a competency-based educational program learners progress at their own rate to mastery of the instructional content, learners

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[1] Vocational-Technical Education Consortium of States (V-TECS) catalogs are job-sequenced lists of performance objectives based upon tasks performed by workers in a specific occupational area. The occupational areas covered in a V-TECS catalog may include tasks for several closely related job titles. Performance guides for each task explain step-by-step how each task is to be performed on the job. Standards are included that indicate minimum acceptable performance. Criterion-referenced items provide a way to evaluate student accomplishment of a particular task. Teachers can use the catalogs as a guide to what is required for successful performance on the job. Tasks listed in the V-TECS catalogs have been determined through extensive research and review by vocational teachers and workers on the job.

The Consortium is a voluntary organization including 17 member states and two branches of the military. Catalogs for approximately 100 occupational areas have been developed.

build confidence by succeeding, students learn according to their preferred learning style, the efficiency of the instructor is increased, and presentation of the content of instruction is assured to be consistent (Knaak, 1977). The student's progress is monitored closely in relation to the stated objectives, allowing continuous diagnosis of difficulties and opportunity for remedial or alternate methods of instruction. Learners may have different instructional goals depending upon their occupational interests and abilities within the program area. The job itself has been the source of the task identification. Thus the identified competencies are job relevant (Burger and Lambrecht, 1974).

While its impact on student learning is most important, other advantages of CBE have been identified. The following educational management reasons for using CBE were reported by a large area vocational school system which is entirely competency-based:

1. Students are not required to repeat learning of skills and knowledge previously learned.
2. Students can obtain immediate access to instructional programs.
3. Handicapped students can obtain immediate access to instructional programs.
4. Handicapped students can complete the segments of an instructional program which they are able to do.
5. The instructional staff can be used more efficiently.
6. The building and instructional equipment can be used more efficiently.
7. The placement of graduates in jobs is assisted.
8. Students with a wide range of entry-level skills can be accepted.
9. The content for instruction is available 24 hours per day for part-time students. (Knaak, 1977)

Adult learners have varying goals, aptitudes, abilities, and needs relating to job or career preferences. The flexibility of CBE allows the educational program to deal with these differences.

> CBE is particularly suited to adult education programs because adults have often acquired a wealth of practical experience which may enable them to demonstrate attainment of specific competencies without taking formal course work. Thus, they would be given credit for competencies which they have already acquired. (Hertling, 1974, p. 50)

Adults often do not have enough time to learn the "nice to know" areas of vocational instruction. In a CBE program learners can master those competencies which lead to their individual occupational goals. The competencies learned are job relevant when the identification of tasks performed in occupations is the initial step in developing a competency-based vocational curriculum.

The Objectives

Recognizing that CBE offers great potential for improving the learning time *and* the quality of adult vocational education, this project was sponsored to achieve the following objectives:

1. Identify and describe characteristics of specific competency-based adult vocational education programs in public and private vocational education.

2. Provide a vehicle for adult vocational program developers and operators to "share and exchange" and "train and be trained" in the competency-based education concept.

3. Provide the profession with information and supporting data on the status of competency-based education in adult vocational education programs sponsored by business, industry, and education so that curriculum designers and instructors will have a readily available source of assistance.

CHAPTER II

REVIEW OF THE LITERATURE

A review of the literature was conducted to (a) aid in the identification of people knowledgeable of competency-based programs in adult vocational instruction in business/industry, labor, education, and government agencies; (b) to establish "descriptors" for competency-based courses as input to instrument development; and (c) to determine the degree of documentation of knowledge in the area. Appropriate literature sources are reviewed here to provide a background for the strategy and operation of the project described in this report and in the other three associated publications.

Most of the literature describes the nature of competency-based education (CBE) in general and its advantages and disadvantages. Although there is a considerable amount of material about competency-based teacher education, this was not generally considered to be within the scope of this project. Instead the emphasis of the literature review was on CBE in general, vocational education more specifically, and whenever possible adult vocational or training applications. Unfortunately, few authors specifically addressed competency-based adult vocational instruction. Some, however, did suggest CBE for all levels of education and training.

The majority of the literature comes from journal articles. The ERIC and AIM/ARM data bases contain a number of associated papers and reports under the heading, Performance Based Education. References were identified on each of the following topics:

- The Nature of CBE
- Application of CBE to Adult Vocational Programs
- Developing and Implementing CBE
- Use of CBE in Business, Industry, and Labor Training
- Problems Involved with CBE
- Favorable Aspects of CBE

A summary of the literature in these six areas follows.

The Nature of Competency-Based Education

The nature or definitions of CBE were often cited in the literature. Common elements of the various definitions were: individualized instruction based on a task analysis, emphasis on exit requirements, time variable with achievement held constant, performance objectives, criterion-referenced testing, and students held accountable for their progress. Houston (1973) stated:

> Competency-based education (CBE) is characterized by its rigorous reliance on objectives which set the parameters for both instruction and evaluation. Such objectives are derived from the role of the practitioner rather than from the logical structure of traditional disciplines. Objectives are clearly stated, explicit, defined in terms of what the learner is to demonstrate, and made public. (p. 200)

Spady (1977) distinguished CBE from competency-based teacher education, mastery learning, individualized instruction, and applied performance testing. He defined CBE as:

> A data-based, adaptive, performance-oriented set of integrated processes that facilitate, measure, record and certify within the context of flexible time parameters the demonstration of known, explicitly stated, and agreed upon learning outcomes that reflect successful functioning in life roles. (p. 10)

But he admits this definition of CBE would be extremely difficult to implement and that most present efforts are much more limited in scope.

Schmeider (1974) of the United States Office of Education listed these characteristics of CBE:

- Individual learner focused
- Emphasis on exit requirements with considerable flexibility in entrance requirements
- Achievement held constant, time varies
- Heavy emphasis on needs assessment
- Continual evaluation—feedback—adjustment cycle as a basic part of the program (p. 45)

The fact that CBE is organized and managed so that everyone concerned with or affected by the education of learners shares the responsibility for learning was considered a key feature by Palardy (1972). This involvement concerns parents, the community, institutions, teachers, and students. Several other authors mentioned that the instructional process is made visible to everyone in competency-based education.

Wood (1975) stated that although there are many important features to the CBE methodology, the student's demonstrated ability to perform on each segment of the curriculum is the heart of the concept. Indeed, every literature source on competency-based vocational education mentioned student performance on tasks required in the occupation as a basic feature.

The traditional role of the instructor is changed in the CBE concept. Teachers become managers of the learning process rather than presenters of knowledge. Glick (1975) referred to the teacher in CBE as a learning facilitator, diagnostician, and counselor. Horlacher (1974) stated that teachers ought to be change agents, guides, mentors, and questioners rather than feeders of information.

Terminology in the literature varied. Many authors used the terms competency-based education (CBE) and performance based education (PBE) interchangeably. Burns (1973) drew this distinction between CBE and PBE. "Objectives describing a behavior, but without additional criteria lead to performance-based education; while behavioral objectives with performance criteria lead to competency-based education" (p. 89). Spady and Mitchell (1977) distinguished competency from capacity: ". . . the term competency refers exclusively to the ability to perform

successfully in the patterned activities which constitute adult life-roles. The term capacity identifies the more discrete skills and capabilities that underlie a competency" (p. 9). Competence was defined by Gale (1975) as the quality of being functionally adequate in performing the tasks and assuming the role of a specified position. This project was concerned with competency-based *vocational* education. The specified position was a job or occupation. This caused some problems in looking for relevant literature sources. The term CBE is often applied to adult basic education, adult performance level education, and functional literacy projects. These efforts are not usually focused on specific occupations or jobs, but on being able to function adequately in society. Admittedly, this is necessary to function on the job but it was not the emphasis of this study.

An important point made by Dobbert (1976) was that the field and consequently specific performances are continually changing. "A good curriculum must be contemporary and reflect those changes if it is to meet the needs of society" (p. 4). One feature of CBE is that it is derived from a job analysis. The job analysis should be continually evaluated and updated. Since the curriculum is structured around performance objectives, it is relatively simple to delete those objectives that are no longer necessary and add new objectives where appropriate.

Spillman and Bruce (1976) summed up CBE by stating:

> To determine curriculum content through occupational task analysis, to establish student performance standards, to provide an open-ended curriculum, and to design individualized learning activities—none of this is new to vocational education. Many vocational educators have been following these sound principles for years. Taken together, however, the principles of the competency-based approach constitute a revolution in the delivery of vocational education. (p. 30)

The Application of Competency-Based Education to Adult Vocational Programs

CBE was suggested in several references as a means of improving education programs at a time when program accountability is imperative. Competency-based adult vocational programs are based on the premise that the instruction will improve job performance. With competencies identified and defined, administrators will be able to demonstrate learning accomplishment. The flexibility of CBE was also cited as being well suited to adult instruction. In a competency-based course adults may enter at whatever level is appropriate for their abilities and exit when they have attained the necessary job competencies to achieve their goals. They may receive credit for the competencies they already have and avoid unnecessary course work.

Hertling (1974) stated that the competency-based approach to learning has become increasingly interesting to educators in recent years. "While the concept has been most commonly applied to teacher education programs, it is adaptable to all forms and all levels of education, including adult education programs" (p. 50).

CBE is offered as a direction for education in the face of rapid environmental change. According to Jones (1975), "We have entered an era where the doubling rate of knowledge is so great that new ways of teaching, storing, retrieving, routing, organizing, communicating, and processing it must immediately be developed" (p. 5). He continues, ". . . Coping with exploding technologies is going to require continuing education for almost everybody" (p. 8). Jones has suggested the concepts of competency-based education would fit well with helping people keep up with expanding technology. Instruction could be available on a 24-hour basis, nothing need be taught unless it could

be justified in terms of the student's future occupational needs, large numbers of expertly produced instructional modules could be available to teachers, and mastery learning or competency would replace specified hours of class attendance as the exit requirement.

Patterson (1976) stated that changing technology has compelled adults to continue to upgrade their occupational skills or develop new ones in order to secure and hold employment. The Performance-Based Adult Vocational Education (PAVE) system was designed in Alabama, ". . . to produce an instructional program which will result in the adult learner acquiring the knowledges and skills required in the occupation. This system will also enable the learner to acquire these necessary knowledges and skills with maximum efficiency of time and effort" (p. 1). The PAVE system was designed to assist instructors to utilize the V-TECS catalogs in planning and implementing performance-based adult vocational programs. A brief description of V-TECS catalogs is contained in Chapter I.

Thus, adults have unique needs for occupational upgrading or acquiring new skills. The literature suggests the adult population should become a high priority group to receive competency-based vocational education.

Developing and Implementing Competency-Based Education

Several authors addressed the problems in the development of competency-based programs and the implementation of them into existing educational and training systems. Lee (1976) suggested the most feasible way to develop a program is to examine available research to analyze current task analyses developed for the job, but to beware of out-dated surveys. Teachers should develop specific objectives related to those tasks. Some task lists also include correlated objectives which can be adapted and selected to suit individual student needs. The Vocational-Technical Education Consortium of States (V-TECS) catalogs were suggested by Lee as a source. By using available research and task lists, the teacher has more time to concentrate on "how" rather than on "what" to teach.

To make the transition from traditional instructional methods to CBE, Glick (1975) suggested that administrators set up teaching teams established by grade, complementary interests, competencies in specific topics, or by departments. This would give staff a personalized role in implementing CBE through sharing ideas and feelings about new instructional topics or activities, and evaluating materials, media, student progress, assessment procedures, and other concerns.

Burger and Lambrecht (1974) outlined six steps needed to implement CBE into a vocational program area. These are major tasks in their *Handbook for Vocational Instructors Interested in Competency-Based Education:*

1. List all the occupations that could be offered in the program area.
2. Decide whether instruction for the listed occupations will be offered in the program.
3. Draw a "worker mobility chart" to show where each occupation in the program falls in the hierarchy (beginning through advanced).
4. Outline a curriculum for each occupation through the use of task inventories.
5. Write instructional modules for each occupation.
6. Develop a record keeping system.

When implementing CBE, conflicts may arise in the areas of course management and institutional traditions. The concept of a course should not be singularly tied to a cherished bibliography of reading assignments. Spady and Mitchell (1977) pointed out that the course should consist of all learning experiences needed for the student to acquire and demonstrate specific competencies. The achieving and demonstrating of outcome goals, not the length of time it takes to reach the goals, should be the criterion for program completion. They offered a solution to the letter grading dilemma. "Whereas in a conventional course situation one student might receive an A and another a C on the same material, in CBE terms the A student would be recognized as being able to perform identifiably different competencies than his peer, rather than the same competencies better" (p. 13).

The Use of Competency-Based Education in Business, Industry, and Labor Training

There was little in the literature regarding competency-based business, industry and labor training. The ERIC data base contained an interesting report by Oriel (1974) regarding improvement of performance in technical and apprentice training. This study in the metal trades, involving first year apprentices in training, was conducted to demonstrate the effectiveness of performance-based training.

An experimental group received a systematically organized and administered, self-paced program using criterion-referenced performance standards. This group completed a full year of related instruction in 61 hours compared to 187 hours for the control group using traditional training. The experimental group scored 80 percent higher on the final exam for the related instructional materials. After less than 40 hours of training they rated higher in quality of shop performance than the comparison group after 1,200 hours of shop training.

The results of this study indicate CBE can improve industry training programs. Among the findings in the report were these statements: "It is possible, with a systematically organized and administered self-paced program, to achieve a uniformly high level of achievement by setting absolute (criterion referenced) performance standards. And it is likely that such a program will result in a significant reduction in training time" (p. ii). Oriel concluded:

> Compared to most conventional apprentice programs, such an intensive training program at the beginning of the first year, produces apprentices who are able to perform a wider variety of shop tasks—with greater confidence—much earlier in their first year. (p. viii)

The most comprehensive example of "modern" apprentice training Oriel reported in his study was the Ford Motor Company. That program, starting in 1966, was based on a task analysis for all the major skilled trades. The end product of this approach was the establishment of a modular training curriculum in both shop and related instruction that was self-paced. An "hours-on-course" was retained as an outside dimension but apprentices moved through the training program based on task achievement rather than hours spent on a particular phase of training. Since 1970 the task analysis has been integrated into the labor agreement.

Problems Involved with Competency-Based Education

The most frequently noted problem with the competency-based concept involved getting CBE implemented into schools and training programs. There seems to be a resistance to change. Spady and Mitchell (1977) mentioned that "CBE challenges the time-honored conceptions of course credit

and letter grading systems. One of the major problems is the public's concern for keeping young people under supervision and out of the labor market for 12 years of school" (p. 13).

Another implementation problem is a lack of support for the classroom teacher trying to use CBE. Much of the literature is theoretical and the classroom teacher cannot use it to help with day-to-day problems in implementing CBE. In dealing with individualized instruction, how does the teacher deal with student apathy, heavy teaching loads, larges classes, minimum support systems, and the realization that many learners are dependent rather than independent? McArdle and Morkovis (1977) suggested, "The success of any multiple delivery system is based on a support system that provides the classroom teacher with the help that is needed in planning and coordinating learning activities" (in publication). If this is not available the teacher may not think the system is worth the effort.

Wall and Williams (1972) asserted that in addition to teachers being restrained by traditional assumptions about teaching and schools, there has been a software lag in developing the technology for competency-based educational systems. Because teachers generally are not trained to utilize new technological tools or given an environment where utilization of such tools would be realistic, they do not demand such techniques. Hence, it is not profitable for manufacturers to invest in software development for education. They stated:

> The application of CBE is but another example of this dilemma. Many are aware of the usefulness of this instructional system. Yet, while its value is acknowledged, it is doubtful that it will gain widespread use until teachers are freed from the constraints of the typical classroom. (p. 52)

Burger and Lambrecht (1974) listed these problems with CBE in their handbook:

1. Competency-based instruction is dependent upon valid identification of tasks performed in entry-level occupations and the availability of such task inventories to curriculum developers.

2. Some competencies desirable for certain occupations may be difficult to identify explicitly from inventories of tasks performed.

3. Time may not be available for teachers to develop alternative instructional materials appropriate for learning the tasks which have been identified.

4. Several alternative testing instruments which are both valid and reliable measures of the instructional objectives may not be available.

5. Unrestricted student-pacing of instruction may lead to an inefficient use of time by some students and, thus, may adversely affect the level or the number of competencies attained.

6. The identification of mastery levels of performance of occupational tasks, or minimum performance standards, is very difficult for many tasks.

7. The establishment of minimal performance levels for students may not provide sufficient encouragement for students to attain more advanced performance levels. (pp. 4-5)

Byram (1973) criticized CBE for ignoring the process of diagnosis. He stated, "Feedback on effectiveness of the instructional activities employed has little meaning without a clear statement of the reasons why the individual student has failed to master the competency" (p. 39).

Favorable Aspects of Competency-Based Education

A major advantage of CBE mentioned in several sources is student motivation. By providing students with concrete goals, the instruction is perceived as being more relevant than traditional instruction. Because CBE instruction is based on job/task analyses, students know the training is job relevant. Success experiences at each step of the program maintain student motivation. Another advantage is flexibility, students can work at their own pace on the material relevant to their individual needs.

Schmeider (1975) concluded that as long as time-based degrees and normed tests are used, there is little that can be done to measure or improve the productivity of educational systems. CBE allows for more experimentation with the means of acquiring skills. He also pointed out that the CBE approach permits a de-emphasis of the costly and time consuming formal education process. It has the potential to reduce class differences in educational attainments. In addition it would make job discrimination more difficult.

"The modular design permits students to progress through the many small segments of the program on an individual basis. They can 'drop back in' if they drop out. Modularized credit encourages students to do each program segment because as they complete each module they gain a fractional unit of credit." (Wood, 1975, p. 27). Since teachers have a constant progress report on each student, they can determine who is progressing and who is not—and why. This provides excellent program evaluation and monitoring. Students who complete a competency-based vocational instructional program should have, along with a school diploma, a record or certification of competencies they have mastered. This is a powerful tool for job interviews and placement.

Wall and Williams (1972) related CBE to future educational methods. By the year 2000 they speculate schools will have undergone fundamental change. Information and training will be offered through a vast array of communications devices. Learners can receive instruction in a variety of settings and determine what is important to their individual needs. Through technology, students will have access to the best teachers and learning experiences. Community learning centers will replace schools for everyone to use. "Learning will be a lifetime activity not restricted by age or subject matter" (p. 51).

CHAPTER III

PROJECT ACTIVITIES AND ACCOMPLISHMENTS

The purpose of this chapter is to provide an overview of (a) methods employed in the National Survey of Competency-Based Adult Vocational Instruction, (b) the development of the *National Directory of Selected Competency-Based Adult Vocational Education Programs*, (c) the planning and operation of the National Workshop conducted within the project, and (d) the supporting activities which contributed to these efforts. Readers who desire more information regarding the survey, the *National Directory*, and the project workshop should refer to the appropriate companion publications listed in the Preface of this report.

Briefly, the major activities or methodological steps in the project were to:

1. Identify descriptors for competency-based adult vocational programs through a review of the literature and consultation with a National Panel of Consultants in CBE representing business/industry, labor, and education.

2. Develop a data collection instrument for use in the survey of competency-based adult vocational instruction based largely upon the descriptors identified.

3. Obtain nominations of individuals to be surveyed from contact persons in both the public and private sectors.

4. Conduct the mail survey among those nominated in Step 3.

5. Visit 10 of the exemplary programs identified in the survey and review these programs in depth.

6. Prepare a technical research report of the National Survey of Competency-Based Adult Vocational Instruction.

7. Compile a *National Directory of Selected Competency-Based Adult Vocational Education Programs* identified in the survey.

8. Conduct a four-day dissemination workshop including (a) presentation of project findings, (b) presentations of exemplary competency-based adult vocational programs, (c) dialog and exchange of information by participants, and (d) opportunities for participants to develop individual action plans for implementing and improving competency-based adult vocational instruction at their respective institutions and agencies.

9. Compile Workshop Proceedings to include presentations and selected individual action plans developed by participants.

10. Prepare a final report of the entire project to contain information and supporting data on the status of CBE in adult vocational programs in business, industry, labor, and education in the United States.

The National Survey

Since the companion publication, *Competency-Based Adult Vocational Education Programs: A National Survey*, contains a detailed description of methodology, only a general overview of methods will be described in this report.

Population and Sample

The population of interest in the survey was those individuals who conduct non-credit and/or non-degree competency-based adult vocational courses in both the public and private sectors in the United States.

Over 1,600 people were contacted during the first six months of the project to seek their nominations of individuals involved with competency-based adult vocational programs. The groups contacted to provide nominations included the following:

1. State directors of vocational education
2. State directors and coordinators of adult education
3. Directors of postsecondary vocational-technical schools
4. Administrators of junior and community colleges
5. Training administrators in government agencies such as the U.S. Department of Labor and the U.S. Department of Commerce
6. Members of the American Society for Training and Development (ASTD)
7. Proprietary schools listed in the directory of the National Association of Trade and Technical Schools (NATTS)
8. Members of the National Transportation Apprenticeship Training Council
9. Members of the Maritime Trade Advisory Board
10. Firms from *Fortune* magazine's list of 500 leading businesses and industries
11. Trainers in various health organizations and associations
12. Other miscellaneous contacts obtained via publicity in various professional publications and numerous individual referrals.

Many initial nominations included state-level administrators in the public sector. They were subsequently contacted and asked to nominate administrators or instructors at the local school level for participation in the survey. Approximately 1,900 persons were nominated from the various sources listed. The total list was scrutinized to avoid duplication of nominees, programs, or training departments, resulting in 1,657 nominees being selected to receive the questionnaire.

Instrument Development

Concurrent with the identification of the sample, the data collection instrument for the survey was developed. Instrument development began with a rather extensive review of literature to

identify "descriptors" which appeared to be fundamental to competency-based instruction. A preliminary list of descriptors was identified and synthesized into questionnaire items which were to be the basis for course ratings by respondents. This list was refined so there was little or no apparent overlapping among the items.

In addition, a number of demographic questions were generated to determine such characteristics as the number of competencies (tasks) identified for a given course; the number of terminal performance objectives based upon identified competencies; the amount of time required to complete the course if it was not completely open entry/open exit; course enrollment by sex; use of advisory councils; placement programs; follow-up of course completers; and months of the year the course is offered.

It is important here to draw a distinction between the terms "program" and "course." When instrument development began, the focus was upon identifying competency-based adult vocational *programs*. However, the literature and observations by project staff suggested that there may be great variations within programs regarding the extent to which individual courses are competency-based, especially when more than one instructor is involved. Therefore, recognizing that instructors are known to vary widely in their commitment to and involvement with competency-based instruction, it was decided to gear the survey at the *course* level to obtain as precise a measure as practicable.

Also, contrary to common practice in survey research, the project staff decided that the questionnaire should be deliberately designed to be difficult to complete. The rationale for this decision was that a large number of vocational educators and trainers are quick to claim that their courses and programs are competency-based. Today it is socially desirable to claim that competency-based programs are being conducted because of several state mandates and widespread endorsement of the concept among many leaders in education and training. Further, there is a tendency for people to apply a new name to old programs without modifying the substance. Therefore, an effort was made to structure the questionnaire in such a way that only those people who were actually conducting competency-based adult vocational instruction would take the time and effort to respond.

The final section of the questionnaire, the most difficult part to complete, was open-ended. It asked respondents to describe their competency-based courses in terms of methods used to identify competencies (tasks), development and validation of performance objectives, delivery of instruction, student testing procedures, course evaluation methods, and the nature of the support system for the course. The primary purpose of this open-ended section was to obtain course descriptions for inclusion in the *National Directory of Selected Competency-Based Adult Vocational Education Programs.* The development of this *Directory* will be discussed later in this chapter.

After several versions of the instrument were developed by project staff, two consultants who are specialists in competency-based vocational education were commissioned to critique the conceptual base of the instrument and to offer other suggestions for improvement. After revisions were made, the instrument was critiqued by a group of private sector trainers and revised again. Subsequently, the instrument was reviewed by the project's National Panel of Consultants. Based upon their inputs, the instrument was again refined and prepared for pilot testing in Minnesota and Ohio. To facilitate responses to the instrument, a glossary of terms was developed (see Appendix A). Pilot test results indicated a need for minor changes and the final version of the data collection instrument was prepared. A copy of the instrument is included in Appendix B.

Data Collection

To facilitate data collection, a postcard was mailed to approximately 350 administrative contacts asking if they were interested in being included in the survey, and if so, to indicate the

number of instructor survey forms needed. Again, this was an effort to identify respondents at the course level rather than having a respondent complete the questionnaire for a range of courses. The survey was mailed in early April, 1977, to the 1,657 people in the sample. After 10 working days, a follow-up letter was mailed to those who had not responded at that time. This letter served as a reminder and re-emphasized the importance of responding.

After 20 working days a random sample of 98 non-respondents was taken and a telephone follow-up was conducted. Table 1 contains the results of that telephone survey. The most common response to the phone call was that the questionnaire was already in the mail, or that it was being completed by the person called or a staff member. Of the 35 people responding in this way, only four questionnaires were actually returned. It appears from this follow-up that those who did respond to the survey were more likely to be involved in competency-based instruction than those who did not respond, consistent with the need in this survey to identify only the relatively strong competency-based adult vocational courses.

Table 1

Findings of the Telephone Follow up of the Survey Non-respondents[a]
(n=98)

Response to Call	Number	Percent
Survey is in the mail, being completed, passed on to subordinate or received during follow-up	35	35.8
Person unreachable (on vacation, no phone, no answer, etc.)	20	20.4
Person never returned call after two tries	14	14.3
Program/course not CBE	10	10.2
Person no longer employed in program	6	6.2
Person did not receive the survey (sent another)	5	4.6
Program/course not adult education	3	3.1
Program/course degree granting	2	2.1
School out of business	1	1.1
No time to complete survey	1	1.1
Respondent non-English speaking	1	1.1
TOTALS	98	100.0

[a]As of date of follow-up 232 usable surveys had been received.

In an effort to determine the validity of data collected by the instrument and to obtain more detailed information than was possible with the questionnaire, respondents from 10 sites were selected for formal visitations. Eight of those site visits focused on courses and two of the sites had comprehensive competency-based programs including virtually all courses in the school.

These sites were located throughout the nation and represented both the public and private sectors. Detailed reports of these site visits are contained in the full-scale report of the survey. Eight additional sites were chosen for relatively brief visits in conjunction with travel to the other 10 sites. Another value of these site visits was to identify presenters for the national Workshop conducted as part of the project.

Data Analysis

The analyses performed on the questionnaire data were primarily exploratory because little evidence was available to suggest what the data might reveal. Descriptive statistics such as means, medians, modes, and standard deviations were computed on the demographic variables and on the competency-based course descriptors. Responses to the six open-ended questions in the latter part of the questionnaire were content analyzed to determine the degree to which convincing evidence of competency-based instruction existed. Based upon the strength of the open-ended responses in supporting the descriptors of competency-based instruction, project staff assigned weights from one to three to the open-ended responses. These weights were summed across the six questions and were defined as the criterion in a regression analysis.

The linear regression analysis and canonical correlation analysis were calculated to investigate the various relationships between the 19 competency-based descriptors and the six open-ended questions. By this means it was possible to identify variables most closely related to strong programs of competency-based adult vocational instruction.

Development of the National Directory

The National Directory of Selected Competency-Based Adult Vocational Education Programs was developed primarily from responses to the six open-ended questions in the questionnaire. In addition, some of the demographic variables were also selected for describing courses and programs contained in the *Directory*. In a majority of the 277 cases, the descriptions provided in the open-ended section of the questionnaire were very sketchy. The descriptions by respondents contradicted many of the high ratings they had given their courses on the competency-based descriptors.

Sixty responses were selected which contained evidence of several elements of competency-based instruction. Although approximately half of those responses selected for the *Directory* had to be returned to the respondents for elaboration, it was evident in their original descriptions that a substantial effort toward competency-based instruction had been made.

Guidelines for the use of the *Directory* were developed and are contained in its introductory chapter. Locations of the 60 selected competency-based adult vocational education courses and programs are shown on a national map to facilitate identification of programs for possible site visits and other communications between users of the *Directory* and contact persons listed. In addition, an index in the *Directory* contains a cross reference of courses by vocatonal education service areas and by business, industry, and labor designations in the private sector. The *Directory* is a major product of the national survey.

Planning and Operation of the National Workshop

The National Workshop on Competency-Based Adult Vocational Instruction was held August 2-5, 1977 at The Center for Vocational Education in Columbus, Ohio. Nine persons gave

presentations on exemplary competency-based adult vocational education programs. Presentations also included activities and resources of The Center for Vocational Education relative to competency-based education and adult vocational education. Also, Louis H. Anderson of the U.S. Office of Education reported on a substantial number of federally-funded projects in the area of competency-based adult vocational education. These presentations are included in the *Workshop Proceedings*.

Workshop activities included small group sessions and individual work and consultation sessions. A major objective of the Workshop was for participants to develop individual action plans for implementing what was learned in the Workshop. A copy of the Workshop program is contained in Appendix D.

Seventy-four participants attended the workshop. Groups represented included state department of education staff members; administrators and instructors from local schools; business, industry, and labor representatives; college and university personnel; corrections personnel; and various other groups. Participants came from 26 states and the Virgin Islands. Individual action plans prepared by 20 of the participants were selected for inclusion in the *Workshop Proceedings*.

Information obtained by project staff following the Workshop indicated that a considerable amount of communication among participants was underway. Several people were arranging site visits to programs which they learned about and several others indicated that materials exchanges were taking place. The success of the Workshop was indicated by an extremely positive evaluation by Workshop participants.

Supporting Activities

Substantive inputs to the project were obtained from several individuals. When the project began, consultations were held with several members of the staff of The Center for Vocational Education who are involved with the Performance-Based Teacher Education program. They were extremely helpful in providing literature suggestions and in critiquing preliminary versions of the data collection instrument. Additionally, nine consultants (two working independently and seven serving on the National Panel of Consultants), representing both public and private sectors, provided invaluable inputs to the project, particularly in instrument development. Approximately 10 people provided important input early in the project during informal discussions at the American Vocational Association Convention in Houston, Texas, December 1976. Numerous other inputs were obtained by letters and telephone calls from interested professionals throughout the country.

In November 1976, a project announcement was mailed to approximately 70 professional journals and newsletters. The announcement described the project and requested assistance in identifying competency-based adult vocational programs. A more detailed announcement was published in the December 1976 issue of the *Centergram*, the monthly newsletter of The Center for Vocational Education. Several people throughout the country contacted the project staff with suggestions in response to those published announcements.

A brochure was prepared to send with each questionnaire mailed to persons in the sample and to other individuals who requested information about the project at various times. The brochure contained a brief project description, a description of products to be developed within the project, and a tear-off card for people to complete if they desired further information regarding the project Workshop.

Finally, the project and the Workshop were described to a meeting of approximately 600 adult educators at the California Adult Competency Education Conference held in San Francisco, June 1-3, 1977.

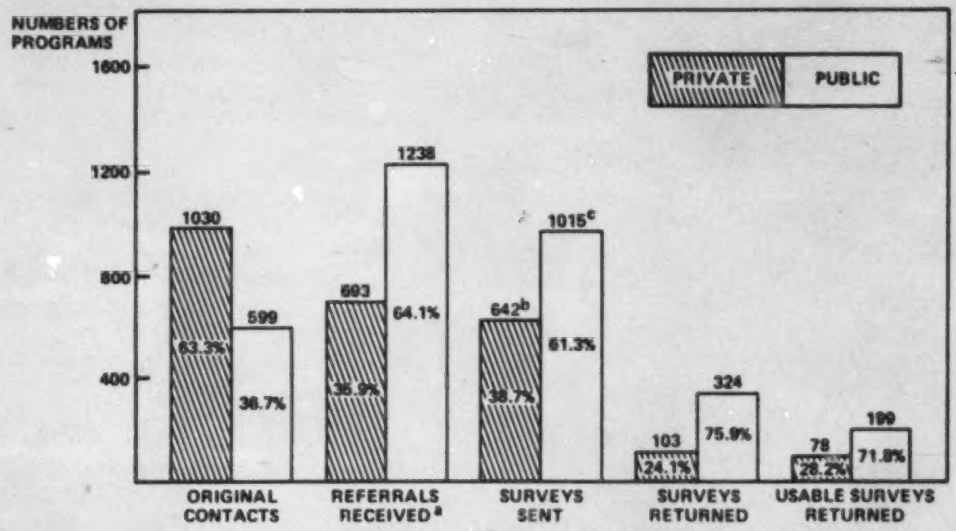
CHAPTER IV

MAJOR FINDINGS

Detailed findings of the national survey of competency-based adult vocational instruction were presented in the report, *Competency-Based Adult Vocational Education Programs: A National Survey*. The more prominent findings will be considered in this document.

Descriptive Data

Based upon the 1,931 nominations received in the first half of the project, 1,657 questionnaires were sent to prospective respondents. After mail and telephone follow-ups, within a three-month period, 277 usable responses were received. The usable response rate was 12.1 percent from the private sector and 19.6 percent from the public sector, or 16.7 percent overall. Contacts and responses from private and public sectors are illustrated in Figure 1. At least two factors could



[a]THESE NUMBERS MAY INCLUDE SOME DUPLICATES SINCE MORE THAN ONE PERSON MAY HAVE REFERRED A PERSON OR PROGRAM.

[b]THIS NUMBER INCLUDES ASTD CHAPTER PRESIDENTS.

[c]THIS NUMBER INCLUDES PROGRAMS CLASSIFIED "OTHER."

FIG. 1. CONTACTS AND RESPONSES FROM THE PRIVATE AND PUBLIC SECTORS

have affected the relatively low return rate from the private sector. One factor is the likelihood of proprietary concerns and the need to protect "trade secrets." Another factor to keep in mind regarding the private sector is that a significant portion of the sub-group responding was comprised of proprietary schools, and not business, industry, or labor establishments. Figure 2 illustrates the proportions of the usable returns which are accounted for by the various sub-groups in the sample. In the public sector, adult skills centers, public technical institutes, public schools, and junior or community colleges responses were in approximately equal proportions.

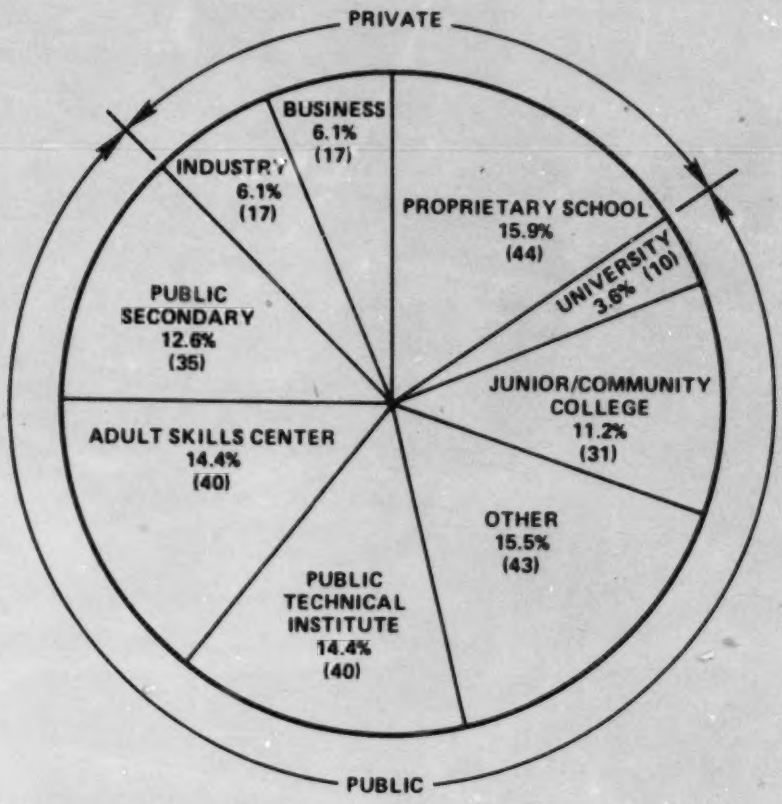


FIG. 2. TYPES OF FACILITIES IN WHICH COURSES WERE OFFERED (n=277)

A profile of competency-based adult vocational education courses identified in the survey would indicate that most of them are approximately 160 hours in length. Further, almost 30 percent were reported as being completely open entry/open exit. Most courses were in the trade and industrial area, with approximately 31 competencies (tasks) identified for each course and approximately 23 terminal performance objectives based on those competencies. A majority of courses had both male and female enrollments, with a larger number of males being enrolled overall. Most courses were served by active advisory councils, placement programs, follow-up programs, and a majority were offered year-round.

The most common types of problems mentioned by respondents were concerned with low ability levels and lack of qualifications of students, followed by difficulties in keeping the curriculum up-to-date, and administrative and organizational problems. Major ideas for improvement suggested by respondents included curriculum and program revision, updating materials and equipment, and staff preparation.

Competency-Based Descriptors

The course descriptors which generally are the most difficult to implement (less frequently reported) within courses are those often associated with very strong competency-based adult courses. The descriptors which apparently are most difficult to implement include:

1. Pre-assessment of learners upon entry to determine learner skills and objectives to be achieved;

2. Learning alternatives (i.e., different approaches) for learners; and

3. Providing or suggesting a different method of instruction if the learner does not achieve a learning task.

These items are characteristic of most competency-based instruction since they represent a high degree of individualization of instruction based on students' capabilities, needs, and learning styles. It appears from the findings that many respondents are operating courses that are not completely competency-based. This statement is supported by other findings reported later in this chapter.

Criteria for Competency-Based Courses

The six open-ended questions in the data collection instrument were designed primarily to obtain course descriptions for the *National Directory*. An analysis of responses to these questions indicated greatest strength in the area of student testing. The second strongest criterion question among courses dealt with the methods for instructional delivery. Courses were not exceptionally strong on any of those questions, contrary to the relatively high ratings respondents reported on the course descriptors, for the most part. From evidence presented in response to the open-ended questions, it is apparent that many respondents frequently over-rated the descriptors.

Differences between Public and Private Sectors

Public sector courses held a significant advantage over private sector courses in regard to the use of advisory councils, the use of business, industry, school officials, and community leaders on those councils and on three of the 19 course descriptors. Those three dealt with flexible scheduling and providing learning alternatives. The public sector was also significantly stronger than the private sector on the open-ended criterion question dealing with instructional delivery.

A significantly greater number of private sector courses were offered year-round than were offered in the public sector. The two sectors were virtually equal in the use of placement and follow-up programs.

Thus, the overall strength of competency-based adult vocational education courses was greater in the public sector than the private sector. This finding was quite interesting to the investigators, who had suspected that competency-based training was more refined and widespread in the private sector. The data indicated that the reverse was true.

Comparison of Descriptors with Other Variables

The ratings of courses on the extent to which they possessed the 19 descriptors made it possible to relate descriptor scores with other variables. It was found that courses which definitely possessed the descriptors were much more likely to have an active advisory council; to involve business, industry, and proprietary school officials on the advisory council; to operate placement and follow-up programs; and to operate all year. Also, there was a positive relationship between a course definitely possessing most of the descriptors and substantial activity on other variables studied.

Regression Analysis and Canonical Correlation

Using the total score on the six open-ended questions as the criterion, a regression analysis was performed in which the 19 course descriptors were the independent variables or predictors. The analysis revealed that the descriptor item "Learners are pre-assessed upon entry to determine learners' skills and objectives to be achieved, rather than all learners covering the same objectives" is most strongly related with a course being competency-based. Courses which are not strongly competency-based tend not to possess this descriptor. Other descriptors which are related to the criterion are "Instruction is segmented into manageable units, each containing related job skills," and "Each learner is allowed to proceed to subsequent instruction as quickly as performance objectives are attained." Three other descriptors were significantly related to the criterion but were very weakly correlated. All 19 course descriptors were positively related to the criterion, indicating that competency-based courses are more likely to possess those descriptors than courses which are not competency-based. A small portion of the variance (14 percent) was explained by the regression equation. A substantial part of the unexplained variance perhaps is due to respondent error, such as over rating the descriptors.

The canonical correlation analysis indicates that courses which are characterized as competency-based in the way in which instruction is delivered and, to a lesser extent, by the nature of student testing and course evaluation, are also characterized by allowing learners to proceed as quickly as objectives are attained, pre-assessing learners upon entry, not requiring clock hours of attendance, and recording learner performance as each objective is achieved, but *not* deriving competencies from a task or job analysis. Conversely, courses which were rated low in the criterion questions generally would not be characterized by the above features.

This canonical correlation analysis showed that three of the six criterion questions were important in the relationship between the two composite variables, and that the course descriptors which were important in the linear regression were, for the most part, the ones which were important in the relationship described by the canonical correlation.

In drawing conclusions from these results, it must be remembered that only courses which respondents considered to be competency-based were included in the sample. If courses not considered competency-based had also been included, the relationship probably would have been stronger and different variables may have proved important in describing the relationship.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS FOR ACTION

Several general conclusions will be drawn here and will form the basis for subsequent recommendations. Detailed supporting data and more specific conclusions and recommendations are contained in the report, *Competency-Based Adult Vocational Education Programs: A National Survey.*

Conclusions

General conclusions are as follows:

1. The quality and extent of competency-based adult vocational instruction appears to be greater in the public sector than in the private sector. This appears to be true even though proprietary schools comprised a major portion of the private sector subsample. This conclusion seems to be at odds with conventional wisdom in the field.

2. However, there is little cause for strong reaction to this conclusion because instances of high quality competency-based adult vocational instruction are indeed infrequent in *either* sector. From over 1,900 referrals received and 1,657 questionnaires mailed to individuals who were nominated, only 277 usable responses were received. Of that number only 60 of those responses were judged to be sufficiently well documented for inclusion in the *National Directory of Selected Competency-Based Adult Vocational Education Programs.* If these courses and programs were distributed equally among the 50 states, there would be an average of slightly more than one course or program per state! Thus, the extent of implementation of competency-based adult vocational instruction is extremely limited.

3. Persons who are operating competency-based adult vocational programs are, for the most part, working in isolation from other adult educators. Of the sites which were visited, personnel rarely were familiar with other competency-based adult vocational programs.

4. Competency-based programs are developed primarily from the initiative of a single instructor, sometimes with assistance from a local administrator or state department of education representative.

5. Too many programs which were purported to be competency-based failed to provide adequately for pre-assessment of learners upon entry, progression of learners to subsequent objectives as soon as learning objectives are achieved, learning alternatives, and open entry/open exit format in which performance is held constant and time is variable. A few programs were identified which operate extremely well in these respects, but again, they were few.

APPENDIX A

GLOSSARY OF TERMS

GLOSSARY

The terms in this glossary are identified in italics in Section I of the Form.
Please READ CAREFULLY before completing the form.

ADULT VOCATIONAL EDUCATION–Instruction for "out-of-school" persons generally above the age of 16 which is designed to prepare or upgrade occupational skills, except programs leading to degrees of any kind.

COMPETENCY–The ability to perform a given task under specified conditions at an acceptable proficiency level.

COMPETENCY-BASED INSTRUCTION–Based upon a job/task analysis, and consisting of elements such as performance objectives, individualized instruction, and criterion-referenced testing.

CONDITIONS–(part of an objective) The particular limits and circumstances of the job environment which will be taken into consideration when the learner's performance is practiced and evaluated.

COURSE–The unit of instruction taught by one instructor or a team of instructors working together.

CRITERION-REFERENCED TESTING–Based upon a performance objective and designed to determine whether or not the learner has accomplished the objective (criterion).

ENTRANCE REQUIREMENTS–Abilities that the learner must possess/exhibit prior to beginning a period of instruction.

EXIT REQUIREMENTS–The specific behavior the learner is to exhibit at the end of a period of instruction and based upon a criterion-referenced measure.

INDIVIDUALIZED INSTRUCTION–Providing learners with opportunities for independent achievement of performance objectives. This ranges from differentiating one learner from another simply by the rate at which a sequence of activities is undertaken and completed to differentiating by providing optional sequences.

JOB ANALYSIS–The process of identifying duties and tasks which comprise workers' responsibility including the collection and analysis of such data.

OPEN ENTRY/OPEN EXIT–Learners can enter or leave the program of instruction at any time or point dependent on the competencies possessed.

PERFORMANCE OBJECTIVE–A statement specifying what learners will be required to do in terms of terminal observable behavior, conditions under which the behavior will be exhibited, and the acceptable level of performance.

STANDARD–The level of the learner's performance which will be deemed minimally acceptable.

TASK–A unit of work activity or operation that constitutes a logical and necessary step in the performance of a duty. It usually consists of two or more steps.

TASK ANALYSIS–The process of analyzing data on tasks identified in a job analysis to aid in determining training requirements.

APPENDIX B

DATA COLLECTION INSTRUMENT

NATIONAL SURVEY OF COMPETENCY-BASED ADULT VOCATIONAL INSTRUCTION

Instructor Survey

INSTRUCTIONS FOR COMPLETION OF THIS FORM

1. This form should be completed for only ONE course. We realize that you may offer more than one instructional course that would qualify as *competency-based instruction*. However, please select the ONE you believe to be the most EXEMPLARY of *competency-based adult vocational instruction* offered. By exemplary we suggest that you choose the ONE which, in your opinion, is the best working example of *competency-based instruction*. If you wish to describe more than one of your courses, please duplicate this form.

2. The form is divided into three sections. Specific instructions are covered in each section.

3. Please complete Section III even though you may not wish your course to be considered for inclusion in the **National Directory**. There is a space for you to indicate your preference. Information will not be published without your written permission/approval.

4. When completed, please fold in half, staple or tape, and mail.

5. If you would like to be notified when the final report and **National Directory** are made available, please check here. ☐

THANK YOU FOR YOUR COOPERATION IN THIS SURVEY!

THE CENTER FOR VOCATIONAL EDUCATION
THE OHIO STATE UNIVERSITY
1960 Kenny Road · Columbus, Ohio 43210

1	2	3	4	5

SECTION I

The italicized terms in this section are defined in the glossary provided.

The purpose of this section is to collect information about your *course* in terms of the extent to which it relates to *competency-based instructional* features.

If you feel that your instruction can be classified as *competency-based*, please indicate whether the following characteristics are evident in your course. The following items describe *competency-based instruction* by most "textbook" definitions. We do not necessarily expect that your or any other *course* will possess all characteristics to a strong degree.

Please place in the box to the right a **1** if you feel that your *course* of instruction **definitely possesses** the stated characteristic, a **2** if you feel that it **somewhat possesses** the stated characteristic, a **3** if you feel that it **does not possess** the stated characteristic, and a **4** if you feel that the stated characteristic is **unusable or not applicable** in your situation.

1 = definitely possesses	2 = somewhat possesses	3 = does not possess	4 = unusable or not applicable

PLEASE MARK YOUR RESPONSE HERE
(Numbers down margin are for project use only)

COURSE NAME: _____

A. STRUCTURE OF *COURSE*

Learners are held responsible for meeting stated *performance objectives*	☐	6
Learners are pre-assessed upon entry to determine learners skills and objectives to be achieved, rather than all learners covering the same objectives	☐	7
Learners know the measures for which they are held accountable	☐	8
Instruction is segmented into manageable units, each containing related job skills	☐	9
Learners are responsible for achieving the *competencies* as opposed to clock hours of attendance	☐	10
Learner performance is recorded as each objective is achieved	☐	11
Greater emphasis is placed upon *exit requirements* (proficiency) than upon *entrance requirements*	☐	12
Competencies are derived from a *task* or *job analysis* of the particular job	☐	13
Student assessment criteria are based upon competencies (i.e., *criterion-referenced testing* is used)	☐	14
Continuous evaluation and feedback to the learner is provided	☐	15
Individual learner *competence* is determined by individual learner performance	☐	16

1 = definitely possesses	2 = somewhat possesses	3 = does not possess	4 = unusable or not applicable

YOUR RESPONSE HERE
(Numbers down margin are for project use only)

Each learner is allowed to proceed to subsequent instruction as quickly as *performance objectives* are attained	☐	17
Instruction offers learning alternatives for learners (i.e., different approaches)	☐	18
Instruction specifies media to be used to accomplish objectives	☐	19
If a learner does not achieve a learning task, a different method of instruction is provided or suggested	☐	20

B. TERMINAL PERFORMANCE OBJECTIVES

Objectives describe the *conditions* under which the learner will be expected to demonstrate the level of *competency*	☐	21
Objectives describe the level of *competency* or *standards* (set by business or industry) to be demonstrated	☐	22
Objectives describe the *tasks* to be learned	☐	23
Objectives are structured in a sequential order or in order of *task* difficulty	☐	24

SECTION II

The questions in this section are to collect descriptive information about your course. When responding to the items think in terms of the preceding 12 months for your course. Read each one carefully and respond to the question in the appropriate box to the right. When recording any number please regard that number as a four (4) digit number and record it like this . . .

The number "34" would be recorded as: | 0 | 0 | 3 | 4 |

or

The number "200" would be recorded as: | 0 | 2 | 0 | 0 |

PLEASE MARK YOUR RESPONSE HERE
(Numbers down margin are for project use only)

A. How many hours of instruction are required for a learner to complete your course? (Please state actual number of hours in 1, 2, **AND** 3, OR **ONLY** check 4 if that applies as your response.)

1. Minimum hours	☐☐☐☐	25-28
2. Average hours	☐☐☐☐	29-32
3. Maximum hours	☐☐☐☐	33-36
4. Not applicable, completely open entry/open exit	☐	37

B. As a result of the analysis of the job, how many competencies (tasks) have been identified for this entire course? [Please state the actual number of competencies (tasks)] ☐☐☐ 38-40

YOUR RESPONSE HERE
(Numbers down margin are for project use only)

C. How many terminal performance objectives, based upon the competencies (tasks), are included in this course? (Please state the actual number.) ☐☐☐ 41-43

D. What is the approximate total enrollment in your course, by the learner's sex? (Please state approximate numbers)

1. Female ☐☐☐ 44-46
2. Male ☐☐☐ 47-49

E. Does your course have an active advisory council?

1. Yes
2. No ☐ 50

F. If you have an active advisory council, what people are represented? (Please check all that apply)

Union Representatives	Business Reps	Industry Reps	University Reps	College Reps	School Officials
☐ 51	☐ 52	☐ 53	☐ 54	☐ 55	☐ 56

Community Leaders	Private Proprietary School Officials	Others:
☐ 57	☐ 58	☐ 59 _____

G. Do you have a placement program for learners completing your instruction?

1. Yes
2. No
3. Other (please explain) _____ ☐ 60

H. Do you have a system for follow-up of your completers?

1. Yes
2. No
3. Other (please explain) _____ ☐ 61

I. Please check the appropriate box or boxes for the months of the year that your course operates:

ALL YEAR ☐ 62

OR

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
☐ 63	☐ 64	☐ 65	☐ 66	☐ 67	☐ 68	☐ 69	☐ 70	☐ 71	☐ 72	☐ 73	☐ 74

J. Would you please share with us any problems that you might have encountered in developing and operating this competency-based course? (Please attach additional sheet marked with a "J" if necessary.)

_____

_____

_____

K. Would you please share with us any ideas on how your competency-based course can be improved? (Please attach an additional sheet marked with a "K" if necessary.)

_____

_____

_____

A workshop will be held on August 2-5, 1977 to disseminate the findings of the study and to assist participants in developing individualized plans of action for improving their adult vocational instruction. If you would like to be placed on a MAILING LIST of POTENTIAL WORKSHOP PARTICIPANTS, please print your name:

_____

SECTION III

Thank you for your work to this point! This remaining section is extremely important to both this study and the recognition which may be focused on your efforts.

The **National Directory** will be a resource to be used by course d[illegible]ors and operators all over the country. If you give us permission, the detailed description which you submit will be the source for **Directory** users to learn about your instructional activities.

1. On the following two pages is the FORMAT in which the DESCRIPTION of your COURSE would appear, with your permission, if selected to be included in the **National Directory.**

2. Please make your descriptions concise and complete, using a few SENTENCES per category RATHER THAN SINGLE WORDS OR PHRASES.

3. TYPE or PRINT directly on this form or use separate sheets of paper.

4. In either case please use the outline and categories listed.

5. Include all the information you regard as pertinent to adequately describe your competency-based adult vocational course.

6. Please check (✓) this box if you **DO NOT** wish us to publish this information in the **National Directory.** ☐ We will send verification of your wish **NOT** to publish.

DESCRIPTION OF COURSE FOR POSSIBLE INCLUSION
IN THE *NATIONAL DIRECTORY* OF CBAV COURSES
(Please TYPE or PRINT your description on this form or some facsimile)

COURSE TITLE: _____

NAME OF FACILITY AND ADDRESS: _____

_____

_____

CONTACT PERSON: _____ Phone Number ( ) _____

TYPE OF FACILITY IN WHICH COURSE IS OFFERED: (Please check one)

☐ Business	☐ Public Secondary	☐ Proprietary School
☐ Industry	☐ Adult Skills Center	☐ Junior/Community College
☐ Union Sponsored	☐ Public Technical Institute	☐ University
☐ Other (Specify) _____		

HOW WERE TASKS IDENTIFIED IN THE JOB ANALYSIS? _____

_____

_____

_____

_____

HOW WERE PERFORMANCE OBJECTIVES DEVELOPED AND VALIDATED? _____

_____

_____

_____

HOW IS INSTRUCTION DELIVERED? (For example, via modules, open entry/open exit, or other format)

_____

_____

_____

_____

_____

WHAT IS THE NATURE OF STUDENT TESTING? (For example, describe basis, methods, extent) _____

WHAT IS THE NATURE OF COURSE EVALUATION? (How reviewed, revised, who is involved, etc.) _____

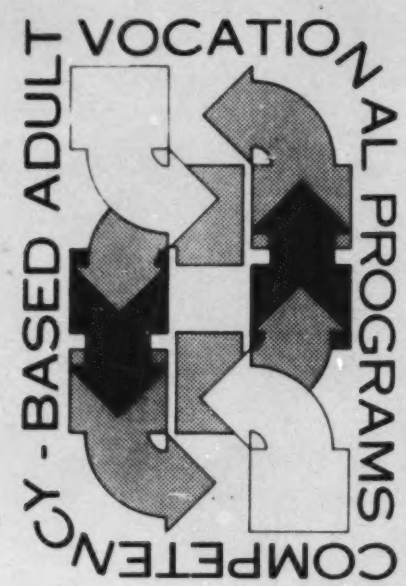
WHAT IS THE NATURE OF THE SUPPORT SYSTEM OF YOUR INSTRUCTION? (i.e., advisory groups, administration, funding base) _____

THANK YOU VERY MUCH FOR YOUR TIME AND ENERGY IN ASSISTING US WITH THIS PROJECT

IF YOU KNOW OF ANY OTHER INSTRUCTOR(S) WHO SHOULD RECEIVE A COPY OF THIS SURVEY, PLEASE SEND US THEIR NAME(S) AND ADDRESS(ES):

NAME: _____
TITLE: _____
AGENCY: _____
ADDRESS: _____
_____
_____
TELEPHONE: _____

NAME: _____
TITLE: _____
AGENCY: _____
ADDRESS: _____
_____
_____
TELEPHONE: _____



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Dr. Earl B. Russell
The Center for Vocational Education
1960 Kenny Road
3030-340227-322A

APPENDIX C

NATIONAL DIRECTORY COURSE DESCRIPTION FORMAT

COURSE TITLE:

NAME OF FACILITY AND ADDRESS:

CONTACT PERSON:

PHONE NUMBER:

TYPE OF FACILITY WHERE COURSE IS OFFERED:

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: _____

AVERAGE HOURS: _____

MAXIMUM HOURS: _____

COMPLETELY OPEN ENTRY/OPEN EXIT: __ _____

NUMBER OF COMPETENCIES (tasks):

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES:

APPROXIMATE TOTAL ENROLLMENT:

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR ☐

or

JAN ☐ FEB ☐ MAR ☐ APR ☐ MAY ☐ JUN ☐ JUL ☐ AUG ☐ SEP ☐ OCT ☐ NOV ☐ DEC ☐

METHOD FOR IDENTIFICATION OF TASKS

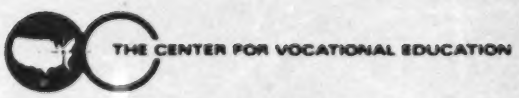
DEVELOPMENT OF PERFORMANCE OBJECTIVES

INSTRUCTIONAL DELIVERY

STUDENT TESTING PROCEDURES

COURSE EVALUATION

SUPPORT SYSTEM



APPENDIX D

NATIONAL WORKSHOP PROGRAM

PROGRAM

NATIONAL WORKSHOP ON COMPETENCY-BASED
ADULT VOCATIONAL INSTRUCTION

Tuesday, August 2

8:00 a.m.	Registration
9:00 a.m.	"Workshop Overview and Expected Outcomes" Earl B. Russell, CBAVI Project Director
9:20 a.m.	"Our Commitment to Competency-Based Education and Adult Vocational Education" Robert E. Taylor, Executive Director of The Center
9:45 a.m.	"Activities of the U. S. Office of Education in Competency-Based Adult Vocational Programs" Louis H. Anderson, Project Officer Bureau of Occupational and Adult Education U. S. Office of Education Washington, D.C.
10:15 a.m.	Break
10:30 a.m.	"What Every Participant Has Been Waiting to Find Out About the National Survey of Competency-Based Adult Vocational Instruction" Cynthia Anderson, Program Associate John Boulmetis, Research Associate Earl Russell, Project Director
11:45 a.m.	Lunch
12:30 p.m.	For members of Groups AA and BB who wish to have a tour of The Center for Vocational Education, please meet Cindy Anderson and John Boulmetis in the lobby at this time. These people should be among the first in the lunch line.
1:00 p.m.	Small Group Session--Focus: Determining Priorities for Strengthening or Starting Competency-Based Vocational Programs for Adults
3:00 p.m.	Break

3:30 p.m. Exemplary CBAV Program #1--Instructor Initiated and Operated

Charles Walejko, Division Chairperson
Woodruff Regional Occupational Center
Stockton, California

4:15 p.m. Exemplary CBAV Program #2--A Large, Comprehensive Program

John Kobe, Adult Vocational Director
Suburban Hennepin County Area Vo-Tech Centers
District Office
Minneapolis, Minnesota

5:00 p.m. Adjourn

6:00 p.m. Social Hour (cash bar with complimentary hors d'oeuvres), Buckeye Room, 11th Floor, Holiday Inn

Wednesday, August 3

9:00 a.m. Exemplary CBAV Program #3--Inter-Agency Roles and Functions

Norma B. Brewer, Research Associate
Research Coordinating Unit
Montgomery, Alabama

Johnny H. Spears, Instructor
Radio and TV Repair
Tallapoosa-Alexander City Area Training Center
Alexander City, Alabama

9:45 a.m. Exemplary CBAV Program #4--Adult Competency Education Project

Joe Cooney, Director
ACE Project
San Mateo County Office of Education
Redwood City, California

10:30 a.m. Break

10:45 a.m. Exemplary CBAV Program #5--The Adult Performance Level Approach in Adult Vocational Education (A panel presentation and discussion)

Buddy Lyle, APL Project Director
University of Texas
Austin, Texas

Rosemary Dawson, Coordinator
Competency-Based Diploma Project
Los Angeles Unified School District
Los Angeles, California

Harry E. Frank, Associate Professor
Vocational and Adult Education
Auburn University
Auburn, Alabama

12:00 noon — Lunch

12:45 p.m. — For members of Groups CC and DD who wish to have a tour of The Center for Vocational Education, please meet Cindy Anderson and John Boulmetis in the lobby at this time. These people should be among the first in the lunch line.

1:30 p.m. — Exemplary CBAV Program #6--Administration, Development, and Operation

William Knaak, Superintendent
916 Area Vo-Tech Institute
White Bear Lake, Minnesota

2:15 p.m. — Small Group and Individual Work Session Details

2:30 p.m. — Convening of Small Group Work Sessions (Six open entry/open exit work groups, led by resource persons including presenters of exemplary programs. These groups will operate concurrently within the approximate time ranges specified.)

3:15 p.m. — Break

3:30 p.m. — Individuals Change Groups If Ready

4:15 p.m. — Individual Work Time/Consultation with Resource Persons

5:00 p.m. — Adjourn

Meanwhile, waiting for the bus . . . For members of Groups EE and FF who wish to have a tour of The Center for Vocational Education, please meet Cindy Anderson and John Boulmetis in the lobby at this time.

Thursday, August 4

9:00 a.m. — Large Group Progress Check

9:15 a.m. — Individuals Join New Small Groups if Ready

10:00 a.m. — Break

10:15 a.m. — Individuals Change Groups If Ready

11:00 a.m. — Individual Work Time/Consultation with Resource Persons

12:00 noon — Lunch

12:45 p.m. Slide Demonstration--"Competency-Based Instruction for Disadvantaged Adults"

Melanie J. Parks, Retail Cashier Instructor
Westside Vocational-Technical Center
Winter Garden, Florida

1:30 p.m. Small Groups Re-convene: Individuals Change Groups if Ready

2:15 p.m. Individuals Change Groups if Ready

3:00 p.m. Break

3:15 p.m. Individual Work Time: Focus--Preparation of Individual Action Plan

4:15 p.m. Large Group Progress Check

4:30 p.m. Adjourn

Friday, August 5

8:30 a.m. Finalize Individual Action Plans/Consultation with Resource Persons

9:45 a.m. Break

10:00 a.m. Adult Education Resources Available from The Center

Career Planning Programs for Women Employees

Patricia Winkfield, Research Specialist

Performance-Based Teacher Education Modules

Glen Fardig, Research Specialist

Cooperative Adult Education; The ERIC Clearinghouse on Career Education (includes Adult and Vocational Education)

Bernie Moore, Adult and Continuing Education Specialist in the Clearinghouse

Metric Education Instructional Materials for Vocational, Technical, and Adult Education

John Peterson, Research Specialist

11:15 a.m. Workshop Summary

11:30 a.m. Adjourn

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